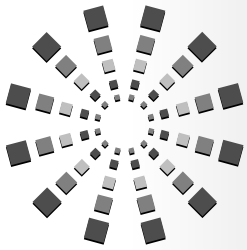

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Death Anxiety and Quality of Life in Iranian Caregivers of Patients With Cancer

KEY WORDS
Cancer
Death anxiety
Family caregiver
Quality of life

Background: Concerns about death may alienate and negatively impact communication among family members of patients with life-threatening illness. Little is known about the relationship of death anxiety to quality of life in cancer family caregivers. **Objective:** The aim of this study was to examine relationships between sociodemographic and patient-related factors, social support, and religiosity with death anxiety and quality of life in Iranian cancer family caregivers. **Methods:** Three hundred thirty family caregivers from an urban regional cancer institute in Iran participated in a descriptive-correlational study that incorporated sociodemographic surveys and validated death anxiety (Templer Scale) and Quality of life (Family Version) instruments. **Results:** Caregivers reported moderate levels of death anxiety and decrements in QOL. Quality of life was inversely associated with death anxiety ($r = -0.30$, $P < .001$). Female caregivers who were daughters had higher death anxiety, whereas male caregivers who were sons reported higher quality of life. **Conclusions:** Death anxiety is associated with lowered quality of life in Iranian family caregivers. Multiple factors may impact death anxiety and quality of life relevant to the socioreligious milieu. **Implications for Practice:** Addressing concerns that increase death anxiety may improve quality of life and lower stress associated with adapting to the family caregiver role. Caregiving responsibilities, added to challenges associated with personal, family, and professional life, impact multiple aspects of QOL. As nurses increasingly care for patients from diverse backgrounds, it becomes more imperative that support for family caregivers that promotes psychological adaptation and quality of life is needed.

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With the bulk of cancer care occurring in the patients' home environment, the well-being of family caregivers of patients with cancer is increasingly recognized as an essential factor in promoting positive clinical outcomes for patients.[1,2] Studies have reported that many family caregivers experience psychological distress, erosion in quality of life, decreased relationship satisfaction, and poorer perceived health.[3–5] Caring for patients with cancer may evoke thoughts and fears about personal mortality.[6] Caregivers may experience anticipatory loss in relation to the patient's failing health and may have difficulties communicating with the patient about the reality of impending death, both of which are shown to heighten distress.[6,7] Despite growing awareness of the burden imposed by caregiving and associated psychological distress, few studies to date have examined caregivers' death anxiety and coincident quality of life in cancer caregivers. While death anxiety is recognized to be an important construct affecting well-being among healthy Iranians,[8] little is known about the death anxiety experience and factors associated with quality of life of family caregivers. Therefore, the purpose of this exploratory study was to examine sociodemographic and patient-related factors associated with death anxiety and quality of life in Iranian cancer caregivers. In addition, given the important roles that the presence or absence of religiosity and social support may contribute in either augmenting or lessoning death anxiety[9] and quality of life,[5] these 2 factors were also examined.

■ Background and Significance

A diagnosis of a life-threatening illness such as cancer provokes fears and anxiety about mortality.[10] Death anxiety, the apprehension engendered by fear of one's own death and/or the process of dying, is recognized as an important psychological phenomenon that can affect perceived quality of life in clinical and nonclinical groups.[9,11] Concerns about death may heighten negative affect, negatively impact communication, and alienate patients and their family caregivers from each other.[10] Death anxiety is recognized to surface when individuals are faced with personally threatening illnesses or stressors, reminded of death by association with others approaching death or bereavement, and existential confrontation with perceptions of alienation or questions about the meaning or purpose of life.[11,12] Although a broad literature exists demonstrating the importance of the death anxiety construct to quality of life and adaptation, only limited research has examined the presence and impact of death anxiety in cancer caregivers.[13]

Family caregivers generally consist of relatives, spouses or partners, or friends who have an important connection with the patient and who deliver wide-ranging support for a person with a disability or chronic condition, such as cancer.[14,15] The family caregiver may provide assistance that involves multiple facets of the patient's life from functional aid with activities of daily living and psychological and social support, to aid with economic and transportation needs.[15] The impact of cancer on the family caregiver has received increasing attention over the past 2 decades with burgeoning literature reporting the effects of caregiving on perceived stress levels, burden, and quality of life.[16–18] Quality of life is viewed theoretically as a multidimensional phenomenon, encompassing the impact of caregiving on daily life along physical, psychological, social, and spiritual health indices.[5,11]

Higher psychological distress is associated with lowered quality of life in family caregivers.[4] It has been found that many family caregivers experience high levels of depressive symptoms and compromised mental health that persists over time.[14,18,19] Psychological distress in the caregiver can be compounded by the declining health and eventual death of the patient.[3,7,20] Caregivers and patients who experience marital difficulties and insecure relationship attachment experience higher distress that negatively impacts end-of-life communications and quality of caregiving and receiving.[21] Furthermore, distress between caregivers and patients is often interdependent.[18] Social support is a factor shown to buffer against psychological distress and lowered quality of life in cancer caregivers.[5] However, a lack of adequate social support and resources,[22,23] poor communication relative to impending death,[6] family cohesiveness,[24] and presence of relationship discord[21,25] may challenge quality of life maintenance in caregivers.

Religiosity is generally experienced within a cultural context and can be an important factor in guiding personal integration of life events and coping processes during stressful situations.[26,27] Spirituality, a sense of peace, unity, harmony, purpose, and meaning with one's life, may have beneficial effects on reducing psychological distress and promoting quality of life for cancer caregivers.[5,18] Cultures may differ by the significance that they attribute to death and in the role that they play in decreasing or surmounting fears related to death. Religion and spirituality are considered inseparable and a way of life for the people of Iran, who subscribe to Islamic religious beliefs.[28] Subscription to Islamic religious beliefs also implies a belief in life after death, as the Quran emphasizes that death is a transition into the next life.[28] In accord with afterlife beliefs, resurrection occurs on the "day of judgment" with either reward (paradise) or retribution (hell) as the final end point for all humans for eternity. Research findings relative to whether religious and spiritual beliefs impact level of death anxiety are mixed.[29] For example, studies have shown that religiosity and spirituality were negatively related with death anxiety.[30,31] Whereas other studies have found no relationships between religiosity and death anxiety,[32] Bachner et al[10] found that fear of death was higher among religious family caregivers of cancer patients. Intrinsically motivated as opposed to extrinsically driven religious beliefs and participation are associated with lower death anxiety.[29] Given that religious adherence to Islam is part of the cultural identity of the nation of Iran, evaluating relationships between religious participation and death anxiety in family caregivers is of particular importance.

Study Objectives

The purpose of this exploratory study was to examine relationships between death anxiety and quality of life among Iranian cancer caregivers of patients preparing for or receiving anticancer treatment. We hypothesized that higher death anxiety would be associated with decrements in quality of life in the sample of caregivers. Second, we sought to determine if sociodemographic

factors (age, sex, type of caregiver relationship, marital status, education, socioeconomic status), patient factors (cancer stage, type of anticancer treatment received, time lapse since diagnosis), social support, and religiosity were predictors of quality of life and death anxiety in these family caregivers of cancer patients.

■ Methods

A descriptive correlational design was used to examine relationships between death anxiety and quality of life. The study population consisted of family caregivers of long-term cancer patients referred to a major tertiary Iranian cancer institute for anticancer treatment evaluation (surgical resection, radiation, and/or chemotherapy). Study inclusion criteria were as follows: (1) age 18 years or older, (2) caregiver of a family member with a definitive diagnosis of cancer within the past year, (3) able to read and write, and (4) no physical and/or psychiatric condition (schizophrenia, posttraumatic stress disorder, dementia, major depressive disorder) that would impede ability to participate in the study.

Over a 3-month period, a convenience sample of 525 family caregivers was referred to the study. Of these referred patients, 358 who met study inclusion criteria were approached with 330 patients agreeing to participate for a 92% response rate. Post hoc power analysis demonstrated that the sample size of 330 had sufficient power (>0.90) to detect a medium-size difference using general linear models with an α value set at .05.

Study procedures were approved by the associated university's Medical Sciences Ethics Committee before the study was initiated. Trained research assistants who were also nursing students recruited potential participants in a quiet private treatment area. All participants were informed about the voluntary nature of participation, the confidentiality of the participants' personal information, and the option to withdraw from the study at any time. A verbal informed consent and written informed consent were obtained from each participant. Once consent was obtained, participants were given coded surveys to complete at their own pace.

Instruments

A sociodemographic survey was used to elicit information about the caregivers' age, sex, marital status, education level, employment and socioeconomic status, presence of social support, and religiosity. In addition, from the same survey, we gleaned information about the patients' disease stage and type of treatment.

The presence of social support was measured with 2 survey items. These 2 items asked caregivers to select their perceived level of support from significant others (spouse, children, parents, close friends, and relatives) from 1 to 5 (1 = no support, 5 = maximal support) and engagement in social activities from 1 to 5 (1 = no engagement, 5 = maximal engagement). The degree of religiosity was measured by 3 items that asked the caregiver to select their engagement in religious activities from 1 to 5 (1 = no engagement, 5 = maximal engagement), degree of general religious belief from 1 to 5 (1 = not religious, 5 = maximal religious beliefs), and frequency of daily prayer behavior from 1 to 5 (1 = no prayer at all, 2 = less than 5 times, 3 = 5 times daily but not at Mosque, 4 = some daily prayer in Mosque, and 5 = 5 times daily in Mosque).

Death anxiety was measured with the 15-item Templer Death Anxiety Scale (TDAS).[33,34] The TDAS is the most commonly used death anxiety instrument internationally and has been translated into several languages. We used a Likert scale translated version of the TDAS[35] consisting of 15 items scored from 1 (completely disagree) to 5 (completely agree), with a possible total score range of 15 to 75. Lower scores indicate lower levels of death anxiety. In Iran, the Persian TDAS has demonstrated very strong validity and reliability in accordance with the cultural and social context.[8,36–38] Test-retest reliability (distance of 10 days in duration) demonstrated an interclass correlation coefficient of 0.73 for this study.

The Quality of Life (Family Version) (QOL-FL), used extensively in cancer survivorship research, is a 37-item instrument that measures the quality of life of a family member caring for a patient with cancer.[39] The QOL-FL has been translated into a Persian version with documented validity and reliability to assess quality of life in Iranian family caregivers of patients with cancer.[40] The QOL-FL consists of 4 subscales that include physical well-being (5 items), psychological well-being (16 items), social concern (9 items), and spiritual well-being (7 items). Each QOL-FL item is scored on a 0-point (worst outcome) to 10-point (best outcome) scale, with higher scores reflecting higher levels of quality of life (total instrument range, 0–370). The QOL-FL is evaluated both with individual subscale scores and with an overall global score. Test-retest reliability (distance of 10 days in duration) demonstrated an interclass correlation coefficient of 0.76 for this study.

DATA ANALYSIS

The Statistical Package for Social Sciences, version 20.0 (SPSS Inc, Chicago, Illinois) was used for data analysis. Descriptive statistics for numerical variables were displayed as means with SD and n (%) for categorical variables. Correlations between quality of life and death anxiety scores were assessed using Pearson correlation when normality assumptions were satisfied; otherwise, Spearman correlation was used. The predictors associated with quality of life and death anxiety scores were determined using general linear models with Bonferroni corrections for pairwise comparisons. Statistical significance was set at $P < .05$ for all procedures.

■ Results

Fifty-nine percent of the family caregivers were female with a mean age of 40.0 (SD, 13.5) years (range, 18–80 years). Most of the caregivers were unemployed (64%), with more than half (58%) relying on family and/or children for income. More than half of the sample had a high school (32%) or college (23%) education and had middle-range income (63%; Table 1). The patients had heterogeneous types of cancers with colon (n = 112 [34%]) and breast (n = 75 [23%]) the most frequently represented. The patients receiving care had a mean length of illness from 18.1 (SD, 32.7) months. Most (63%) received the diagnosis at an early stage (I or II), and approximately one-third of the involved patients (37%) had advanced-stage cancer (Table 1).

Most participants reported having satisfactory social support (57%) and a substantive level of participation in social activities (48%). More than half of the participants (53%) reported

Table 1 • Caregiver Demographic and Patient Health Characteristics

Caregiver Demographic Characteristics		n (%)
Type of caregiver	Wife/husband	82 (24.8)
	Daughter	90 (27.3)
	Son	61 (18.5)
	Parent	27 (8.2)
	Other	70 (21.2)
Sex	Male	138 (41.2)
	Female	194 (58.8)
Marital status	Single	66 (20.0)
	Married	258 (78.2)
	Widowed	5 (1.5)
	Divorced/separated	1 (0.3)
Employment status	Currently employed	119 (36.1)
	Unemployed	211 (63.9)
Educational background	No formal education	30 (9.1)
	Primary school	61 (18.5)
	Intermediate school	57 (17.3)
	High School graduate	106 (32.1)
	College graduate	76 (23.0)
Socioeconomic status	Income in poverty range	102 (30.9)
	Income above poverty range	208 (63.0)
	Income in middle-class range	20 (6.1)
Main source of income	Personal employment	130 (39.4)
	Family support (including children)	190 (57.6)
	Other	10 (3.0)
Patient Health Factors		
Cancer stage	I	116 (35.2)
	II	91 (27.6)
	III	55 (16.7)
	IV	68 (20.6)
Cancer treatment type	No treatment	102 (30.9)
	Chemotherapy	130 (39.4)
	Radiation therapy	25 (7.6)
	Combination (chemotherapy and radiation) therapies	58 (17.6)
	Surgery	15 (4.5)

moderate religious beliefs. The mean score for the TDAS was 46.7 (SD, 10.7). The score reflects moderate levels of death anxiety among the cancer caregivers. The mean total score for the QOL-FL was 199.5 (SD, 35.2; range, 10–327), showing impairment in perceived overall quality of life. While there were scores in the upper range on all subscales, findings demonstrate decrements in physical, psychological, social, and spiritual well-being (Table 2). There were significant inverse correlations between death anxiety and the total quality of life ($r = -0.30$, $P < .001$). In relation to the quality-of-life subscales, death anxiety was negatively correlated with physical well-being ($r = -0.12$, $P < .05$), psychological well-being ($r = -0.40$, $P < .001$), and spiritual well-being ($r = -0.17$, $P < .05$). Relationships between the social concern subscale and death anxiety were not significant ($r = -0.05$). Age was also inversely related to death anxiety (Pearson $r = -0.19$, $P < .05$).

Using general linear modeling, univariate analyses demonstrated that caregiver demographic factors predictive of higher death anxiety included being a daughter ($P = .001$), female ($P < .001$), unemployment ($P = .004$), high school ($P = .043$) or college ($P = .018$) education compared with primary education, average economic status ($P = .036$), and having family as a main source of income ($P = .001$; Table 3). Patient factors that predicted higher death anxiety for the caregiver included not having anticancer treatment ($P = .016$) and receiving radiation therapy ($P < .05$) compared with other modalities.

Caregivers reporting only moderate social support had higher death anxiety as compared with caregivers indicating good support ($P = .02$). Furthermore, moderate engagement as opposed to very good participation in social activities was also associated with higher death anxiety scores ($P = .03$). Caregivers with lower prayer frequency ($P = .004$) had higher death anxiety scores compared with caregivers who prayed in the mosque.

In the multivariate analyses, the chief predictors of higher death anxiety were female ($P < .001$), lower socioeconomic status (poor [$P = .03$] or average [$P = .01$]), and caregiving of patients who were undergoing radiation therapy compared with chemotherapy ($P = .03$; Table 3).

Using general linear modeling, univariate analyses demonstrated that caregivers who were sons ($P = .036$) or other ($P = .014$)

Table 2 • Major Study Variables

Variable	Mean (SD)	Range
Death anxiety	46.7 (10.7)	21–69
Quality-of-life overall score	199.5 (35.2)	10–327
Physical well-being	33.9 (12.7)	4–50
Psychological well-being	72.8 (17.3)	0–151
Spiritual well-being	44.3 (7.1)	0–65
Social concerns	48.4 (11.0)	0–86
Social support and religiosity variables		**n (%)**
Social support (presence)	None	5 (1.5)
	Low level	9 (2.7)
	Moderate level	97 (29.4)
	Good level	189 (57.3)
	Maximum level	30 (9.1)
Engagement in social activities	No engagement	4 (1.2)
	Low engagement	18 (5.5)
	Moderate engagement	104 (31.5)
	Good engagement	159 (48.2)
	Maximum engagement	45 (13.6)
Engagement in religious activities	No engagement	6 (1.8)
	Low engagement	4 (1.2)
	Moderate engagement	14 (4.2)
	Good engagement	186 (56.4)
	Maximum engagement	120 (36.4)
Degree of religious belief	Not religious	5 (1.5)
	Low level of religious belief	8 (2.4)
	Moderate level of religious belief	176 (53.3)
	Strong level of religious belief	123 (37.3)
	Maximum level of religious beliefs	18 (5.5)
Frequency of prayer activity	No prayer	5 (1.5)
	<5 times	20 (6.1)
	At least 5 times per day	227 (68.8)
	At least 5 times per day with some prayer in Mosque	76 (23.0)
	All daily prayers in Mosque	2 (0.6)

reported higher quality of life compared with the other types of relationships. Furthermore, female sex ($P < .001$), current employment ($P = .001$), and personal source of income compared with reliance on others ($P = .016$) were also predictive of higher quality of life. Presence of social support (moderate [$P = .017$], good [$P = .017$], very good [$P = .048$]) was significantly predictive of higher quality of life compared with caregivers with no support. Furthermore, engagement in social activities ($P = .038$), moderate or strong levels ($P < .001$) of religious belief, and some prayer in mosque ($P = .004$) or at least 5 times daily ($P = .009$) were also significant.

In the multivariate analyses, caregiving by others compared with parents ($P = .05$), being male ($P < .001$), moderate ($P < .001$) or strong ($P = .001$) level of religious belief, and some prayer in mosque ($P = .019$) compared with at least 5 prayer sessions daily remained statistically significant for higher quality-of-life scores (Table 4).

■ Discussion

The study was conducted to examine relationships between death anxiety and quality of life and factors predictive of these 2 constructs in Iranian family caregivers of patients with cancer. The findings suggest that death anxiety in family caregivers of patients with advanced-stage cancer is moderate and influenced by sociodemographic factors, family circumstances, and patient treatment. Death anxiety arises as a normal experience when confronted with reminders of threats to mortality.[11] Furthermore, death anxiety can occur when there is perceived danger in difficult everyday life experiences that interfere with the quality of a person's life.[41] Importantly, it is recognized that death anxiety carries important behavioral and psychological consequences. In this study, there were significant inverse relationships between death anxiety and quality of life. Similar to our study, Sherman et al[11] also identified that death anxiety may affect quality of life of caregivers of patients with life-threatening illness.

Younger caregivers in this study had higher levels of death anxiety. Furthermore, women and, in particular, family caregivers who were daughters showed higher levels of death anxiety. Other studies have identified gender influences on death anxiety, with higher levels reported among Iranian women.[42] There may be gender differences between men and women in the sociocultural context that contribute to these differences.[27]

Table 3 • Predictors of Death Anxiety

		Death Anxiety, Mean (SD)	Unadjusted *P*	Adjusted *P*
Type of caregiver	Wife/husband	43.9 (10.7)	.003	.20
	Daughter	50.1 (10.6)		
	Son	46.1 (10.0)		
	Parent	45.2 (10.4)		
	Other	46.9 (10.4)		
Sex	Male	42.6 (10.3)	<.001	<.001
	Female	49.6 (10.0)		
Marital status	Single	48.2 (9.6)	.46	.54
	Married	46.4 (10.9)		
	Widowed/divorced	46.0 (8.1)		
Employment status	Yes	44.5 (10.9)	.004	.84
	No	48.0 (10.3)		
Educational background	No formal education	46.7 (9.2)	.02	.55
	Primary school	42.9 (11.1)		
	Intermediate school	46.2 (9.2)		
	High school graduate	47.8 (11.1)		
	College graduate	48.6 (10.8)		
Socioeconomic status	Income in poverty range	45.5 (10.6)	.02	.017
	Income above poverty range	47.8 (10.4)		
	Income in middle-class range	41.6 (11.6)		
Main source of income	Personal employment	44.3 (10.8)	<.001	.32
	Family support (including children)	48.7 (10.0)		
	Other	40.9 (13.2)		
Stage of disease	I	47.6 (10.6)	.70	.74
	II	46.2 (10.8)		
	III	46.8 (11.0)		
	IV	45.9 (10.3)		
Type of treatment	No treatment	48.5 (10.5)	<.001	.02
	Chemotherapy	44.9 (10.8)		
	Radiation therapy	52.4 (8.9)		
	Combination (chemotherapy and radiation) therapies	47.1 (10.0)		
	Surgery	39.4 (9.4)		
Social support (presence)	None	45.8 (4.5)	.04	.51
	Low level	48.7 (12.3)		
	Moderate level	49.3 (10.7)		
	Good level	45.2 (10.4)		
	Maximum level	47.5 (10.8)		
Engagement in social activities	No engagement	53.3 (10.2)	.04	.50
	Low engagement	46.3 (11.8)		
	Moderate engagement	46.9 (10.6)		
	Good engagement	45.4 (10.8)		
	Maximum engagement	50.6 (9.0)		
Engagement in religious activities	No engagement	44.0 (16.0)	.08	.22
	Low engagement	47.3 (16.5)		
	Moderate engagement	51.3 (7.9)		
	Good engagement	47.9 (9.8)		
	Maximum engagement	44.4 (11.4)		
Degree of religious belief	Not religious	50.4 (11.3)	.09	.56
	Low level of religious belief	51.5 (11.8)		
	Moderate level of religious belief	47.9 (9.8)		
	Strong level of religious belief	45.1 (11.2)		
	Maximum level of religious beliefs	43.0 (12.5)		
Frequency of prayer activity	No prayer	50.4 (11.3)	<.001	.04
	<5 times	51.4 (9.7)		
	At least 5 times per day	47.8 (9.8)		
	At least 5 times per day with some prayer in Mosque	42.1 (11.9)		
	All daily prayers in Mosque	39.0 (2.8)		

(continues)

Table 3 • Predictors of Death Anxiety, Continued

	Death Anxiety, Mean (SD)	Unadjusted *P*	Adjusted *P*
		***b* (95% CI)**	***b* (95% CI)**
Age		−0.15 (−0.23 to −0.064), *P* = .001	−0.12 (−0.24 to –0.003), *P* = .045
Length of time since diagnosis		−0.02 (−0.05 to 0.02), *P* = .29	−0.02 (−0.06 to 0.014), *P* = .25

Abbreviations: *b*, regression estimate; CI, confidence interval.

Our study revealed that type of treatment was a significant predictor of death anxiety. Caregivers of both patients who were not in treatment or who were receiving radiation therapy had higher levels of death anxiety as opposed to caregivers of patients receiving surgery or chemotherapy. Little research has examined the role of treatment variation in relation to the death anxiety experience of caregivers. Given the time period since diagnosis, it is plausible that the patients who were not in treatment had more advanced disease. Also, caregivers may have less death anxiety when the patient received curative procedures such as surgery to eradicate the cancer.

While quality of life was higher among female caregivers as compared with males in general, son caregivers reported higher quality of life compared with daughters. Other studies have identified that gender is a factor that may influence quality of life in individuals.[14] However, Cherepanov et al[2] reported that men have better estimated health-related quality of life comparably than women. Similarly, Kim et al[17] found that male caregivers reported higher self-esteem and quality of life compared with female caregivers. Other important factors in interpretation of quality of life of family caregivers in relation to gender should be considered such as the duration and intensity of care behaviors, cultural factors, and existence of other sources of support.

Frequency of prayer activity was a significant predictor of both lower death anxiety and higher quality of life. Spirituality among cancer caregivers has been associated with higher well-being and lower psychological distress in other research.[43] Furthermore, intrinsic religiosity has been associated with positive life adjustment and lower death anxiety.[29,44] Religious coping appeared to play an important role for these cancer caregivers in buttressing quality of life. Although other research conducted has found similar findings, distress over spiritual concerns is associated with reduced quality of life.[43]

Social support was one of the predictors of quality of life in these family caregivers. It is recognized that family caregivers can be burdened by time and effort expended in caregiving activities. Thus, the social dimension of quality of life can be impaired and restricted,[5,22] challenging the opportunities for open communication with significant others. Our findings reinforce the benefits that social support can provide in enhancing quality of life for family caregivers.

Practice Implications

Death anxiety presentation may fluctuate across the life span in individuals at different developmental life stages and situation.[27] Furthermore, there are multifaceted cultural and psychosocial factors that likely impact cancer caregivers' adaptation to the caregiving role.[5] The study findings support that higher death anxiety negatively impacts quality of life in an Iranian sample of cancer caregivers. Caregivers may have challenges focusing on the patient's treatment-related needs if they are experiencing death-related distress. Furthermore, poorer caregiver quality of life may negatively impact the care they are able to provide the patient. Confronting death and determining areas of death concern may assist nurses to identify content domains that can be used to target intervention. Assessment strategies that are not burdensome and time-intensive but give permission for the caregiver to share important concerns are of essence. Death anxiety can be implicit; thus, its underlying presence may be manifested by seemingly unrelated caregiver demands for more information, intolerance of uncertainty, and emotional distress.

In clinical environments, often typified by limited interpersonal interactions with family members, health providers may focus on the management of patients' medical treatment-related concerns and less on the family caregiver.[1] However, building a trusting therapeutic relationship with the family caregiver that is grounded in active listening skills with the sense that the nurse is acting as a patient advocate is of strong significance. Although the fear of death is pervasive in humans, personal death and the experience of death anxiety may be denied and/or avoided. Nurses may be concerned that discussions involving the topic of death could increase psychological distress. Both in Iran and in other countries, research has suggested that nurses may want to avoid discussion relative to death topics.[42,45,46] Such avoidance is shown to potentially have negative consequences. For example, health providers with higher death anxiety have been shown to be less likely to discuss advanced directives relative to end-of-life planning with patients.[47] There is increasing recognition of the importance of death education for nursing and allied health professionals.[48] Coincident with the need for heightened training to build health provider skills related to death and dying communications is sensitivity related to cultural influences that may impact the experience of death anxiety.

Nurses can evaluate psychiatric factors such as anger, depressive symptoms, and anticipatory grief as potential contributors to caregiver death anxiety. Caregivers may carry painful memories such as experiences with friends or family who had negative experiences of dying of cancer. Furthermore, caring for family members with advanced-stage cancer may lead to grief responses and perceptions of failure, which also could heighten anxiety about managing death. Caregivers who have death anxiety may be concerned that discussing related issues could cause stress to the patient.[10] Importantly, the modification of existential concerns that increase death anxiety may help lower the stress associated with adapting to the caregiver role.[11] Thus, open discussion of death concerns is essential.[10] Caregivers who lack social support or do not perceive that their family and/or friends

Table 4 • Predictors of Overall Quality of Life

		Quality of Life, Mean (SD)	Unadjusted *P*	Adjusted *P*
Type of caregiver	Wife/husband	196.8 (36.7)	.006	.01
	Daughter	195.5 (37.1)		
	Son	206.3 (28.0)		
	Parents	182.9 (32.0)		
	Other	208.2 (35.0)		
Sex	Male	193.0 (35.8)	<.001	<.001
	Female	208.8 (32.2)		
Marital status	Single	204.9 (31.7)	.15	.24
	Married	198.6 (33.8)		
	Widowed/divorced	178.7 (93.9)		
Employment status	Yes	208.1 (30.8)	.001	.72
	No	194.6 (36.6)		
Educational background	No formal education	190.2 (33.5)	.44	.51
	Primary school	200.0 (29.6)		
	Intermediate school	197.0 (38.1)		
	High school graduate	199.8 (32.5)		
	College graduate	204.2 (40.9)		
Economic status	Income in poverty range	196.7 (36.7)	.51	.74
	Income above poverty range	200.2 (34.1)		
	Income in middle-class range	205.8 (38.8)		
Main source of income	Personal	204.8 (36.0)	.01	.06
	Family and children	197.2 (30.2)		
	Others	172.9 (79.2)		
Cancer stage	I	203.3 (38.4)	.54	.90
	II	197.3 (37.2)		
	III	196.6 (30.8)		
	IV	198.3 (29.9)		
Cancer treatment type	No treatment	203.1 (40.1)	.11	.07
	Chemotherapy	198.4 (33.8)		
	Radiation therapy	183.8 (32.8)		
	Combination (chemotherapy and radiation) therapies	199.3 (31.9)		
	Surgery	210.3 (17.1)		
Social support (presence)	None	150.8 (93.6)	.02	.18
	Low level	187.1 (47.4)		
	Moderate level	201.2 (33.4)		
	Good level	200.6 (29.8)		
	Maximum level	198.6 (47.7)		
Engagement in social activities	No engagement	207.3 (30.8)	.03	.15
	Low engagement	179.6 (53.0)		
	Moderate engagement	195.2 (35.2)		
	Good engagement	202.0 (31.4)		
	Maximum engagement	207.9 (37.1)		
Engagement in religious activities	No engagement	162.5 (39.0)	.06	.06
	Low engagement	221.0 (43.2)		
	Moderate engagement	192.5 (25.2)		
	Good engagement	199.4 (31.4)		
	Maximum engagement	201.5 (40.2)		
Degree of religious belief	Not religious	171.8 (42.1)	<0.001	0.001
	Low level of religious belief	199.1 (34.1)		
	Moderate level of religious belief	200.0 (31.7)		
	Strong level of religious belief	205.0 (33.6)		
	Maximum level of religious beliefs	164.8 (54.4)		
Frequency of prayer activity	No prayer	171.8 (42.1)	.001	.001
	<5 times	187.3 (35.1)		
	At least 5 times per day	199.6 (32.3)		
	At least 5 times per day with some prayer in Mosque	206.4 (35.4)		
	All daily prayers in Mosque	118.0 (152.7)		

(continues)

Table 4 • Predictors of Overall Quality of Life, Continued

	Quality of Life, Mean (SD)	Unadjusted *P*	Adjusted *P*
		***b* (95% CI)**	***b* (95% CI)**
Age		0.18 (−0.46 to 0.11), *P* = .22	0.26 (−0.13 to 0.66), *P* = .19
Length of time since diagnosis		−0.11 (−0.23 to 0.01), *P* = .07	−0.08 (−0.20 to 0.03), *P* = .16

Abbreviations: *b*, regression estimate; CI, confidence interval.

are supportive may also have heightened vulnerability. In such cases, the provision of referrals for individual counseling and/or support groups may also be recommended to facilitate effective adaptation. In addition, the availability of high-quality patient and family education materials such as advanced directives, living wills, and financial and personal management resources may help caregivers resolve material death-related concerns. Aiding caregivers to discover such resources is an important nursing role.

Given the significance of religious activities to Islamic patients who are part of the international community, consideration of private space for prayer in the hospital and clinic environment may be needed for caregivers if patients are hospitalized. While many hospitals now have provision of religious resources such as chaplain services for patients, such resources may be less readily available to family caregivers.

Limitations

The study is limited by its descriptive nature and a convenience sample of self-selected Iranian cancer caregivers. While the regional cancer center is reflective of the wider population of Iran, findings cannot be generalized, and causation cannot be established. Furthermore, the cross-sectional nature of this descriptive study limits the ability to understand change over time. The study was unable to determine the intensity of care required by the patients, a factor that could influence quality of life and distress parameters.

Future Research

Of significance, this exploratory study provides useful information that can be applied relative to prospective research. Most research conducted relative to death issues and concerns in nursing has been conducted in palliative care and with end-of-life populations. Death anxiety research in acute care settings where the attention targets active treatment is limited. Furthermore, the measurement of death anxiety continues to evolve. Research that incorporates qualitative measures that are developed to examine personalized attitudes and concern related to death anxiety is needed for targeted application in healthcare settings. Future studies are essential that utilize longitudinal designs, include death anxiety and quality of life of caregiver-patient dyads, and incorporate cultural diversity and evaluation of these constructs in relation to specific points on the survivorship trajectory. Although studies are limited, other research has shown that supportive psychoeducational interventions may reduce the psychological distress experienced by family caregivers of seriously ill cancer patients.[20] Furthermore, studies that focus on targeted strategies that would support adaptation in vulnerable caregiver subgroups are recommended.

■ Conclusion

The study revealed that there is a negative relationship between death anxiety and quality of life in Iranian caregivers of cancer patients. This study also emphasizes the importance of screening for psychological distress and providing mental health resources for cancer caregivers. The responsibilities of caregiving, added to the routine challenges associated with personal, family, and professional life, can impact multiple aspects of quality of life. It is vital that nursing providers develop confidence and skills to evaluate and manage death anxiety that may surface in patients and their families.[46] As nurses globally increasingly care for patients and caregivers from diverse backgrounds, there is added need to target support in the cultural context.

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